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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,084	11/25/2003	Nobuaki Watanabe	2003_1657A	4863

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EXAMINER	
LE, TUAN H	

ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
03/30/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/720,084	WATANABE, NOBUAKI	
	Examiner	Art Unit	
	TUAN H. LE	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-9* is/are rejected.

7)☒ Claim(s) *10-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks, filed 3/5/2010, with respect to claims 1,3-13 have been fully considered and are persuasive. The Final Office Action of 11/30/2009 has been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (4,984,003 to Matsumot et al) in view of Cushman (US 4,299,464).

Regarding **claim 1**, Matsumoto discloses a blade driving device (Matsumoto, Fig. 7) for use in cameras, the blade driving device comprising:

a mechanical blade (blade 1) openably and closably disposed in front of an image pickup element, the mechanical blade being operable to block a part or all of light passing through an exposure aperture or to reduce light passing therethrough (Matsumoto, fig. 7, column lines 55-62, wherein blade 1 can be moved to pass or block light);

an electromagnetic actuator (actuator 4) being operable to enable the blade to perform an opening motion according to opening energization and to

enable the blade to perform a closing motion according to closing energization (Matsumoto, fig. 4, column 4 lines 63-66, wherein blade 1 moved by actuator 4); and

a control means (control circuit 16 and driver 12) for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion to move into an opened state when turning on an electric-power supply in order to set a photographable standby state in which a dynamic image and a still image are photographable (Matsumoto, fig. 7, column 5 lines 24-34, column 7 lines 48-51, wherein electric source 15 and control circuit 16 drive the opening and closing of the blade 1 and the shutter is kept opened to allow operator to view the scene), and to perform an opening motion when a releasing operation is performed, and then to perform a closing motion for completion of a photograph (Matsumoto, fig. 7, column 7 lines 55-57, wherein upon activation of release means, the shutter is opened and then closed).

However, Matsumoto does not disclose

to first perform an opening motion.

On the other hand, Cushman discloses

to first perform an opening motion (Cushman, Abstract, column 6 lines 25-68, wherein shutter is allowed to open after the release operation and shutter delay).

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate the shutter opening as

described by Cushman into the device by Matsumoto so as to first perform an opening operation because such incorporation reduces the incidence of eye closure of an intended subject when the subject is being photographed (Cushman, Abstract, column 1 line 20-25).

Regarding **claim 3**, Matsumoto and Cushman disclose aforementioned limitations of the parent claim. Additionally, Masumoto discloses

the blade is a shutter blade that opens and closes the aperture (Matsumoto, fig. 7, column 4 lines 58-62, wherein blade 1 opens or closes apertures 2).

Regarding **claim 4**, Matsumoto and Cushman fail to teach a diaphragm blade that stops down the aperture to a predetermined aperture diameter. **Official Notice is taken** that both the concepts and advantages of a diaphragm blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the diaphragm blade into the blade driving device as described by Matsumoto and Cushman to adjust aperture diameter because such implementation simplifies designs and yields fast aperture control for the blade driving device.

Regarding **claim 5**, Matsumoto and Cushman fail to teach an ND filter blade that reduces an amount of light passing through the aperture to a predetermined level. **Official Notice is taken** that both the concepts and advantages of an ND filter blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the ND filter blade into the blade driving device as

described by Matsumoto and Cushman to reduce incident light because such implementation simplifies designs for the blade driving device.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (4,984,003 to Matsumot et al) in view of Cushman (US 4,299,464) and in view of Ikeda (JP2001-183718 to Ikeda Noribumi).

Regarding **claim 6**, Matsumoto and Cushma disclose aforementioned limitations of the parent claim. Additionally, Masumoto fails to disclose

the control means applies opening energization to the electromagnetic actuator so as to allow the blade to perform an opening motion when an amount of light incident on the image pickup element becomes equal to or less than a predetermined level in the photographable standby state.

On the other hand, Ikeda discloses

the control means (control section which controls an actuator, Ikeda, paragraph [0004]) applies opening energization to the electromagnetic actuator so as to allow the blade to perform an opening motion when an amount of light incident on the image pickup element becomes equal to or less than a predetermined level in the photographable standby state (Ikeda, Abstract and paragraphs [0003] and [0004], wherein in a photographing standby state, the moving of shutter blades from the opened position to closed position because of vibration or impact makes incident light on image pickup element becomes equal or less than a predetermined value and wherein the shutter blades are always returned to the opened position upon impact or vibration).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the control means as described by Ikedat into the device as described by Matsumoto and Cushman so as to apply opening energization to the electromagnetic actuator so as to allow the blade to perform an opening motion when an amount of light incident on the image pickup element becomes equal to or less than a predetermined level in the photographable standby state because such incorporation results in a good shutter chance for photographing (Ikeda, paragraph [0003]).

Regarding **claim 7**, Matsumoto, Cushman, and Ikeda disclose aforementioned limitations of the parent claim. Additionally, Masumoto discloses

the blade is a shutter blade that opens and closes the aperture (Matsumoto, fig. 7, column 4 lines 58-62, wherein blade 1 opens or closes apertures 2).

Regarding **claim 8**, Matsumoto, Cushman, and Ikeda fail to teach a diaphragm blade that stops down the aperture to a predetermined aperture diameter. **Official Notice is taken** that both the concepts and advantages of a diaphragm blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the diaphragm blade into the blade driving device as described by Matsumoto, Cushman, Ikeda so as to adjust aperture diameter because such implementation simplifies designs and yields fast aperture control for the blade driving device.

Regarding **claim 9**, Matsumoto, Cushman, and Ikeda fail to teach an ND filter blade that reduces an amount of light passing through the aperture to a predetermined level. **Official Notice is taken** that both the concepts and advantages of an ND filter blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the ND filter blade into the blade driving device as described by Matsumoto, Cushman, and Ikeda to reduce incident light because such implementation simplifies designs for the blade driving device.

Allowable Subject Matter

Claims 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claim 10,** the prior art of record neither anticipates nor render obvious the control means applies opening energization to the electromagnetic actuator so as to allow the blade to perform an opening motion when a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in the photographable standby state. The closest prior art, US 6,304,726, discloses a shock sensors detects a predetermined level shock. Then information related to the shock level is displayed on a display of a camera.

Regarding **claims 11-13**, these claims are objected as being dependent upon claim 10.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN H. LE whose telephone number is (571)270-1130. The examiner can normally be reached on M-Th 7:30-5:00 F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan H Le/
Examiner, Art Unit 2622

/Jason Chan/

Supervisory Patent Examiner, Art Unit 2622